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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,969	01/25/2001	Paul Vanlint	004675.P006	8012

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EXAMINER	
SHEW, JOHN	

ART UNIT	PAPER NUMBER
2664	4

DATE MAILED: 07/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/770,969	Applicant(s) VANLINT, PAUL	
	Examiner John L Shew	Art Unit 2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7,9-12,14-15,17-25,27-30,32-33,35-37 is/are rejected.

7)☒ Claim(s) 3,8,13,16,21,26,31 and 34 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 10 line 8 cites "server application 17" should be "server application 19".

Page 22 line 16 cites "decision block 112" should be "decision block 122".

Appropriate correction is required.

Claim Objections

2. Claims 3, 21 recites the limitation "first and second trace files". There is insufficient antecedent basis for this limitation in the claim.

3. Claim 31 recites the limitation "second network traversal time". There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-7, 9-12, 14-15, 17, 19, 22-25, 27-30, 32, 33, 37, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz et al., in view of Ogus.

Claims 1, 19, 37, Dietz teaches a correlation engine (FIG. 3) referenced by packet correlation monitor, a first packet identifier from a first network location (FIG. 2, column 4 lines 45-50) referenced by packet 206 from Client 3 with classification based on conversational flow, with a second packet identifier recorded from a second network location (FIG. 2, Abstract lines 3-7) referenced by packet 207 from Application Server 2 with received packets having parsing operations to create a record, wherein the first and second packet identifiers indicate a common first packet (column 6 lines 18-32) referenced by the use of Unified Flow Key Buffer to identify a common conversational flow. Dietz teaches association of timestamps to packet identifiers (column 20 lines 27-40) referenced by addition of timestamp to the UFKB. Dietz does not teach calculation of traversal time. Ogus teaches a synchronization engine (FIG. 10, FIG. 14) referenced by personal computer 320 which embodies the method of maintaining clock offset, calculating a first network traversal time for the first packet as the difference between the first and second timestamps associated with the first and second packet identifiers respectively (FIG. 11, column 3 lines 4-19, column 19 lines 13-16) referenced by computation of round-trip latency which compares the timestamp of the first sent packet

with the timestamp of the second received packet. Ogus teaches a computer-readable medium storing a sequence of instructions that when executed by machine, causing the machine to perform the method of calculating network latency (FIG. 14, column 20 lines 35-51, FIG. 11) referenced by Personal Computer 320 with System Memory 322 to perform Check Link Saturation including computation of network latency step 220.
It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate packet latency monitor of Ogus to the classification method of Dietz for the purpose of maintaining statistics relevant to the mix of client/server applications thereby optimizing the network bandwidth performance.

Claims 4, 22, Dietz teaches the correlating includes correlating the first packet identifier with multiple packet identifiers (column 5 lines 18-24) referenced by parsing of selected packet parts to assemble a signature, recorded at the second network location as a result of fragmentation of the first packet during transmission from the first network location to the second network location (column 7 lines 3-11) referenced by next logical operation stored from the previous packet with a same flow signature.

Claims 5-7, 23-25, Dietz teaches a classification method of packet conversational flows. Dietz does not teach calculation of multiple traversal times respective of the first timestamp and multiple timestamps. Ogus teaches calculating multiple traversal times as a respective differences between the first timestamp and each of multiple timestamps associated with the respective multiple packet identifiers (FIG. 10, column

3 lines 34-42) referenced by the calculation of clock offset based on timestamps using multiple messages. Ogus teaches identifying a minimum traversal time from among the multiple traversal times as a selected offset (FIG. 10) referenced by computation of clock offset step 204 and selection of calculated bias being smaller than stored bias step 210. Ogus teaches determining whether clock drift influenced a plurality of traversal times for a plurality of packets transmitted between the first and second network locations (column 13 lines 13-20) referenced by clock drift between two computers, and if so then adjusting the plurality of traversal times to compensate for the clock drift (column 13 lines 63-67, column 14 lines 1-10, column 19 lines 25-27) referenced by calculation of a bias for clock drift and comparison of the current message with the stored bias.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate packet latency monitor of Ogus to the classification method of Dietz for the purpose of optimizing the network bandwidth performance.

Claims 9, 27, Dietz teaches wherein bi-directional packet transmissions occur between the first and second network locations (column 2 lines 37-42) referenced by monitor of conversational flows which is the sequence of packets in any direction, and the correlating includes determining a direction of transmission of the first packet between the first and second network locations (column 4 lines 48-50) referenced by the classification of conversational flows that pass in either direction.

Claims 10-12, 14, 15, 17, 28-30, 32-33, Dietz teaches a classification method of packet conversational flows. Dietz does not teach a packet from the second network location responsive to the first packet. Ogus teaches the first packet is transmitted from the first network location to the second network location (column 12 lines 50-64) referenced by computer A sending its first message and computer B sends its acknowledgement for the round-trip time, the method including correlating a third packet identifier recorded at the second network location (column 3 lines 7-17) referenced by the inclusion of byte count and an identifier that matches the message identifier, with a fourth packet identifier recorded at the first network location (FIG. 7, column 10 lines 7-16) referenced by the DirectPlay Prototocol's MsgSERIAL number, wherein the third and fourth packet identifiers identify a second packet transmitted from the second network location to the first network location responsive to the first packet (FIG. 7) referenced by the DirectPlay Send message 132 and the DirectPlay Acknowledge message 152, and wherein the third and fourth packet identifiers have respective third and fourth timestamps associated therewith (FIG. 7, column 12 lines 58-67, column 13 lines 1-6) referenced tRECEIVE and tSEND for timestamps.

Ogus teaches calculating a second network traversal time for the second packet as the difference between the third and fourth timestamps (column 3 lines 34-42) referenced by the calculation of clock offset using timestamps via transmission of multiple messages.

Ogus teaches calculating an average traversal time between the first and second network locations as the average of the first and second network traversal times

(column 14 lines 45-51) referenced by the averaging of N measurements for the bias times.

Ogus teaches adjusting at least the first traversal time based on the average traversal times (column 15 lines 23-61) referenced by bandwidth adjustment based on the average round-trip latency wherein the bandwidth is a function of traversal time.

Ogus teaches adjusting the first and second traversal times based on the average traversal time (column 15 lines 23-61) referenced by bandwidth adjustment based on the average round-trip latency wherein the bandwidth is a function of traversal time.

Ogus teaches outputting at least the first traversal time (FIG. 11) referenced by Computation of Round-Trip Latency step 220 which is available for output.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate packet latency monitor of Ogus to the classification method of Dietz for the purpose of optimizing the network bandwidth performance.

5. Claims 2-3, 18, 20-21, 35-36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz and Ogus as applied to claims 1, 4-7, 9-12, 14-15, 17, 19, 22-25, 27-30, 32, 33, 37, above, and further in view of Trcka.

Claims 2, 18, 20, 35-36, Dietz and Ogus teach a classification system to determine packet latency. Ogus teaches outputting at least the first traversal time (FIG. 11)

referenced by Computation of Round-Trip Latency step 220 which is available for output. They do not teach the use of capture trace files at the first and second network nodes nor display of analyzed data. Trcka teaches the first packet identifer and the first timestamp (FIG. 6a) referenced by Packet with TimeStamp, are contained in a first trace file captured at the first network location (FIG. 1) referenced by Non-Volatile Storage of records processed 50, and the second packet identifier and the second timestamp are contained in a second trace file captured at a second network location (FIG. 2) referenced by the use of multiple data recorders 66 representative of different data locations. Trcka teaches outputting data comprises a visualization module generating a graphical display of the first traversal time (FIG. 10, FIG. 12) referenced by output of analyzed data including traversal time to a Real-Time Network Analyzer 182A for graphical display of the Network Operating Characteristics 200.
It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the network data collection system of Trcka to the classification of packet latency method of Dietz and Ogus for the purpose of filtering select data to use for optimizing the network bandwidth performance.

Claims 3, 21, Dietz teaches merging the first and second trace files into a merged file (FIG. 3) referenced by Parser 301 analyzing the packet which can come from multiple files followed by the Analyzer 303 which classifies the packet to a merged file Database of Flows 324, the merged file containing an entry for each correlation of a first packet identifier with a second packet identifier (FIG. 8, column 6 lines 18-30) referenced by

Unified Flow Key Buffer 802 as the correlation entry between the first packet identifier and the second packet identifier.

Allowable Subject Matter

6. Claims 8, 13, 16, 26, 34, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Citation of Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patent 6012096 Link discloses a method for peer-to-peer network latency measurement. Patent 5101402, Chiu discloses an apparatus for realtime monitoring of network sessions in a LAN.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John L Shew whose telephone number is 703-305-8708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 703-305-4366. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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